National Emission Standards for Hazardous Air Pollutants (NESHAP)
&
New Source Performance Standards (NSPS)

Proposed for Iowa Adoption

Fact Sheets
February 2012

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Summary Table: New Area Source NESHAP

	Affected Facilities (est.)	Compliance Date (existing facilities)	Costs* - Initial (per facility/, EPA est.)	Costs* - Annual (per facility, EPA est.)	Air Pollutants Reduced** (per facility w/ control)	EPA Implementation Tools?	Current Reconsiderations or Stays?
Aluminum, Copper & Other Nonferrous Foundries (40 CFR 63 Subpart ZZZZZZ (6Z))	1-15***	6/27/2011	$2000	$2000	Air Toxics: not quantified PM: Not quantified	Yes	No
Paint/Allied Products Mfg (40 CFR 63 Subpart CCCCCCC (7C))	1-8***	12/03/2012	$147 (most) - $18,000	$147 (most) - $6800	Air Toxics: 3091 lbs PM: 14 tons VOC: 15 tons	Yes	No

**Costs are based on EPA estimates included in the federal regulations and background documentation. In some cases, EPA estimates are based on only a small number of facilities that EPA expected would install emissions control equipment to comply with the regulations.*

***Reductions in air pollution emissions are based on EPA estimates included in the federal regulations and background documentation. In some cases, EPA's estimates are based on a very limited number of facilities that EPA expected to install emissions control equipment.*

****Currently, the Department is aware of only two facilities affected by these NESHAP (one per NESHAP). The higher number is a conservative estimate of possibly affected facilities.*

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NESHAP and NSPS Fact Sheets
October 2011

New Area Source NESHAP

What are the NESHAP for Area Sources?
The National Emission Standards for Hazardous Air Pollutants (NESHAP) program requires facilities in a particular industry sector that construct and operate specific equipment to meet uniform standards for hazardous air pollutants (HAP), also called "air toxics." NESHAP requirements for source sectors vary depending on the processes, activities or equipment being regulated. The NESHAP affect both new and existing major sources and area sources.

Facilities that have potential HAP emissions greater than or equal to the 10/25 tpy levels are classified as major sources for HAP. Area sources have potential emissions less than 10 tons per year (tpy) of any single HAP and 25 tpy of any combination of HAP. Area sources are usually smaller commercial or industrial operations. Area sources are classified as minor sources for HAP.

Unlike NESHAP for major sources, which require affected facilities to implement Maximum Available Control Technology (MACT), the NESHAP standards for area sources typically require only Generally Available Control Technology (GACT). When developing the area source NESHAP, EPA determines whether emissions reduction techniques, such as control equipment or best management practices, are "generally available" and affordable to the particular industry sector.

Aluminum, Copper and other Nonferrous Foundries (Subpart ZZZZZZ) (6Z)

Who is affected by 6Z?
This NESHAP affects foundries that are area sources of hazardous air pollutants (HAP) (also called "air toxics") that melt ≥600 TPY of metal, and are either:

- An aluminum foundry that uses material containing beryllium, cadmium, lead, nickel or manganese;
- A copper foundry that uses material containing lead or nickel in amounts ≥0.1% (by weight) or ≥1.0% manganese (by weight); or
- Any other nonferrous foundry that uses material containing chromium, lead, or nickel in amounts ≥0.1% (by weight).

Foundries that melt less than 600 tons per year of metal are exempt from 6Z.

How many facilities are affected by 6Z?
The Department estimates that between one (1) and 15 facilities are likely to be subject to this standard. At this time, the Department is aware of only one (1) facility that is impacted by 6Z. Very small foundries with annual melt production less than 600 tons per year are not subject to 6Z. It is likely that other, potentially subject facilities are below this threshold or are otherwise exempt from 6Z.

What does 6Z require?
Affected facilities are required to implement Generally Available Control Technology (GACT) to control air toxics and particulate emissions (surrogate for heavy metal air toxics):

- Cover or enclose melting furnaces that are equipped with a cover or enclosure during the melting process.
- Purchase scrap that has been depleted of hazardous metals (those defined as "aluminum foundry HAP," "copper foundry HAP," or "other nonferrous foundry HAP") to the extent practicable.
- Prepare and operate according to a written management practices plan for minimizing emissions from melting operations.

Foundries subject to 6Z that melt 6000 tons per year or more:
For existing melting operations,

- Limit PM emissions to no more than 0.015 grains per dry standard cubic foot (gr/dscf); or
- Route PM emissions from the melting furnace through a PM control device that achieves a control efficiency of at least 95%.

For new melting operations,

- Limit PM emissions to no more than 0.010 gr/dscf; or
- Route PM emissions from the melting furnace through a PM control device that achieves a control efficiency of at least 99%.

Existing facilities had until June 27, 2011, to comply with the NESHAP requirements.

What are the estimated benefits and costs of 6Z?

<u>Benefits</u>
Public health will benefit from reductions in air toxics controlled under the NESHAP. Toxic air pollutants from melting operations at foundries include particulates and metal compounds of beryllium, cadmium, chromium, lead, manganese, and nickel. These toxic air pollutants can pose a health risk to anyone who breathes air containing them.

Air toxics are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. People exposed to toxic air pollutants at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory and other health problems.

EPA did not quantify the emissions reductions for this rule.

Costs

EPA estimates that larger foundries required to control PM emissions will incur one-time capital costs of $2000 and annual costs of approximately $2000 for testing and ongoing monitoring of the PM control devices. However, the Department estimates that only one (1) facility in the state will be affected by this requirement. Smaller foundries that are 6Z-affected are required to follow management practices that will entail little, if any, additional costs. At this time, the Department is not aware of any other facilities that will be impacted by 6Z.

6Z Resources and Tools

- EPA Pamphlet
- EPA Summary
- EPA Flowchart
- 40 CFR 63 Subpart ZZZZZZ (eCFR)
- Final Federal Regulation June 2009 Federal Register

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Paint and Allied Products Manufacturing (7C)

Who is affected by 7C?
This NESHAP affects area sources of HAP that manufacture paint, ink or adhesive and that process, use, or generate materials containing chromium, lead, nickel, cadmium, benzene or methylene chloride.

How many facilities are affected by 7C?
The Department estimates that between one (1) and eight (8) facilities are likely to be subject to this standard. At this time, the Department is aware of one (1) facility that is affected by 7C.

What does 7C require?
Affected facilities are required to operate particulate control equipment to control metal air toxics and must use management practices to control volatile air toxic emissions. Existing facilities have until **December 3, 2012,** to comply with the NESHAP requirements.

What are the estimated benefits and costs of 7C?

Benefits
Public health will benefit from reductions in the volatile and heavy metal air toxics controlled under the NESHAP, and will also benefit from reductions in particulate matter (PM) and volatile organic compound (VOC) emissions.

Air toxics are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. People exposed to toxic air pollutants at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory and other health problems.

Reductions in PM should also reduce fine particles (PM2.5) emissions. PM2.5 penetrate deeply into sensitive parts of the lungs and can cause or worsen respiratory disease, such as emphysema and bronchitis, and can aggravate existing heart disease, leading to increased hospital admissions and premature death. People with heart or lung diseases, children and older adults are the most likely to be affected by particle pollution exposure. However, even healthy people may experience temporary symptoms from exposure to elevated levels of particle pollution.

EPA estimation of air pollution emissions reduced, per facility:
Air Toxics (volatile HAP and metal HAP): 3091 pounds per year
PM: 14 tons per year
VOC: 15 tons per year

Costs

EPA expects that 21% of affected facilities, nationwide, will need to install a particulate control device to comply with the NESHAP. Based on EPA costs estimates, each of these facilities will have maximum, total one-time capital cost of $17,600 and maximum, total annual cost of $6739.

EPA expects that 5% of affected facilities, nationwide, will be required to install lids or covers on their process, mixing, and storage vessels to control VOC. Based on EPA costs estimates, each of these facilities will have maximum, total one-time capital cost of $346 and maximum, total annual cost of $50.

All affected facilities will have recordkeeping and reporting requirements. EPA estimates these annual costs at $147 per facility.

At this time, the Department is aware of only one (1) facility in Iowa that may incur costs to comply with 7C.

7C Resources and Tools

- EPA 7C Brochure
- 40 CFR 63 Subpart CCCCCCC (eCFR)
- Final Federal Regulations December 2009 Federal Register

Amendments to Area Source NESHAP

Gasoline Dispensing Facilities (GDF) and Bulk Gasoline Distribution (Subparts BBBBBB (6B) and CCCCCC (6C) – Federal Amendments

Who is affected by the amendments to 6B and 6C?
On January 24, 2011, EPA published amendments to the areas source gasoline NESHAP (6B and 6C) that EPA originally promulgated in January 2008. The standards affect bulk gasoline distribution, such as bulk plants and terminals, and also impact gasoline dispensing facilities, such as commercial gas stations. The original 6B and 6C NESHAP and earlier amendments are already adopted into Iowa's air quality rules.

EPA states that these amendments provide clarifications to certain definitions and applicability provisions for both 6B and 6C, in response to some of the issues raised in the petitions for reconsideration. In addition, EPA indicates that several other compliance-related questions posed by various individual stakeholders and state and local agency representatives are addressed in these amendments.

How many facilities are affected by the 6B and 6C amendments?
The Department estimates that approximately 250 bulk gasoline plants and 33 bulk gasoline terminals/pumping stations are subject to 6B. However, these amendments do not impose additional requirements on affected facilities, and, in fact, provide regulatory flexibility, necessary clarifications and needed corrections to the 6B requirements.

The Department estimates that there are several thousand commercial gas stations and other gasoline dispensing facilities in the state affected by 6C. However, these amendments do not impose additional requirements on the vast majority of affected facilities, and, in fact, provide regulatory flexibility, necessary clarifications and needed corrections to the 6C requirements. Some facilities will have additional, minimal requirements as a result of the 6C amendments (see 6C costs/benefits section below).

What are the estimated benefits and costs of the 6B amendments?
In general, the amendments to 6B (bulk gasoline distribution) will provide additional regulatory flexibility and necessary clarifications and corrections to the NESHAP. EPA does not estimate any additional costs to affected facilities to comply with the amendments.

What are the estimated benefits and costs of the 6C amendments?
The amendments to the 6C (gasoline dispensing) also provide and needed clarifications and corrections to the original NESHAP.

However, the amendments to 6C do affect certain facilities that were not specifically addressed in the original NESHAP, which focused only on facilities that dispensed gasoline to motor vehicles. Additional facilities now covered under 6C include, but are not limited to, facilities that dispense gasoline into off-road motor vehicles, lawn equipment, boats, test engines, landscaping equipment, generators, pumps, and other gasoline-fueled engines and equipment. These

additional facilities typically have monthly gasoline that is substantially lower than commercial gas stations. Newly affected facilities with lower gasoline throughput will not be required to install vapor control, but will need to follow management and fill practices to reduce spills and vapor releases from gasoline. Under the amendments, existing facilities affected by 6C solely because they load gasoline into fuel tanks other than those in motor vehicles have until January 24, 2014, to comply with the 6C requirements.

Newly affected facilities should experience only minimal costs for some additional recordkeeping, and a few facilities may experience modest costs to install gasoline fill pipes or pipe extensions to meet the 6C "submerged fill" requirements for medium size facilities.

6B and 6C Resources and Tools

- DNR Tools - Gasoline NESHAP
- EPA 6C Pamphlet
- Gasoline NESHAP Regulations
- 40 Code of Federal Regulations (CFR) 63 Subpart BBBBBB
- 40 CFR 63 Subpart CCCCCC

Plating and Polishing (Subpart WWWWWW (6W) – Federal Amendments

Who is affected by the amendments to 6W?
On September 19, 2011, EPA published amendments to the areas source NESHAP for Plating and Polishing (6W)) that EPA originally promulgated in June 2008. This NESHAP affects certain plating and polishing operations with tanks / processes that contain or use any compounds with regulated quantities of cadmium, chromium, manganese, nickel, or lead. The original 6W NESHAP is already adopted into Iowa's air quality rules.

The amendments to 6W clarify that the emission control requirements do not apply to any bench-scale activities. In addition, EPA made several technical corrections and clarifications that EPA states do not make significant changes in the rule's requirements.

How many facilities are affected by the 6W amendments?
The Department estimates that approximately 30 facilities are currently affected by 6W. However, these amendments do not impose additional requirements on affected facilities, and, in fact, provide regulatory flexibility, necessary clarifications and needed corrections to the 6W requirements.

What are the estimated benefits and costs of the 6W amendments?
EPA states in the preamble to the federal amendments that the amendments increase flexibility and makes the rule more clear, which reduces the regulatory burden to affected facilities.

6W Resources and Tools

- DNR Tools - Plating & Polishing
- EPA 6W Brochure
- Federal Amendments September 2011 - Federal Register
- 40 CFR 63 Subpart WWWWWW

Amendments to New Source Performance Standards (NSPS)

What are NSPS?
New source performance standards (NSPS) implement section 111(b) of the federal Clean Air Act. EPA issues NSPS for categories of sources that cause, or contribute significantly to, air pollution (not including air toxics) which may reasonably be anticipated to endanger public health or welfare. The standards apply to new stationary sources of emissions, *i.e.*, sources whose construction, reconstruction, or modification begins after a standard for those sources is proposed.

Stationary compression ignition (CI)/diesel engines and spark ignition (SI) engines – 40 CFR Part 60, Subparts IIII (4I) and JJJJ (4J) – Federal Amendments

Who is affected by NSPS 4I and 4J?
On June 28, 2011, EPA published amendments to the NSPS for stationary CI/diesel engines and stationary SI engines.

4I generally affects "new" diesel engines manufactured after April 2, 2006 (and fire pump engines manufactured after July 1, 2006). 4J generally affects "new" spark ignition (SI) engines that, depending on the type of SI engine and various other factors, were manufactured after various dates after January 1, 2008.

The original 4I and 4J NSPS and subsequent amendments prior to October 8, 2009, are already adopted into Iowa's air quality rules.

How many facilities are affected by the amendments to 4I and 4J?
The Department estimates that hundreds of newer stationary engines are affected by 4I and 4J. However, these amendments do not impose additional requirements on affected facilities. As described in more detail below, the amendments provide regulatory flexibility, necessary clarifications and needed corrections to the 4I and 4J requirements.

What are the amendments to NSPS 4I for stationary diesel engines?
EPA made a number of amendments to 4I that, in most cases, offer more flexibility to stationary diesel engine owners and operators in Iowa. The amendments provide more options to, and regulatory relief from, several previous 4I requirements, including fuel use restrictions, some limitations on emergency engines, specifications for operations and maintenance plans, and classification of temporary engines. The amendments also correct minor mistakes in the original NSPS.

EPA added more stringent requirements for certain types and model years of diesel engines that exceed specific design thresholds. However, the Department is not aware of any of these types of engines currently installed or proposed to be installed in Iowa.

What are the amendments to NSPS 4J for stationary SI engines?
EPA made only minor revisions to 4J to correct minor errors and to mirror certain revisions finalized for diesel engines.

What are the estimated benefits and costs of the 4I and 4J amendments?
For owners and operators of affected engines in Iowa, these amendments increase flexibility and make the NSPS more clear, which reduces the regulatory burden. The amendments should results in reduced costs or no additional costs to affected facilities.

4I and 4J Resources and Tools

- DNR Tools – Stationary Engines
- CI Engine NSPS (4I)
- SI Engine NSPS (4J)
- Federal Amendments June 2011 - Federal Register